

Amendments to the Claims

This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1. (Original) A battery comprising:

 a first cathode operable to electrochemically reduce oxygen to produce hydroxide ions;

 a positive contact electrically connected to the first cathode to allow electrons to flow to the cathode;

 means to allow air into the battery to provide oxygen for reduction at the first cathode;

 an anode operable to receive hydroxide ions and undergo oxidation to produce electrons;

 a negative contact electrically connected to the anode to allow electrons to flow from the anode; and

 a first separator between the first cathode and the anode;

 wherein the battery further comprises a second cathode operable to electrochemically reduce oxygen to produce hydroxide ions, the second cathode being electrically connected to a second positive contact which allows electrons to flow to the second cathode, wherein the second cathode is situated proximal to the negative contact and proximal to the anode, wherein the battery comprises means to allow air into the battery to provide oxygen for reduction at the second cathode, and wherein the battery comprises a second separator between the second cathode and the anode.

2. (Original) The battery of claim 1 wherein the first and second cathodes comprise catalysed carbon.

3. (Currently Amended) The battery of claim 1 ~~or claim 2~~ wherein the anode comprises zinc.

4. (Original) The battery of claim 3 wherein the zinc is provided in a gelled mixture of zinc powder and KOH electrolyte.

5. (Currently Amended) The battery of claim 1 ~~any one of claims 1 to 4~~ wherein the battery is a button battery.
6. (Original) The battery of claim 5 wherein a casing of the button battery is formed by the positive contact and the negative contact together with an insulating gasket.
7. (Original) The battery of claim 6 wherein the negative contact comprises the lid of the battery casing, side portions of the lid being positioned within a can defined by the positive contact, the positive contact and the negative contact being electrically insulated from each other by the gasket lining the inside of the can.
8. (Currently Amended) The battery of claim 6 ~~or claim 7~~ wherein the means to allow air into the battery to provide oxygen for reduction at the first cathode comprises at least one hole through the positive contact.
9. (Original) The battery of claim 8 wherein an air distribution membrane is provided across the at least one hole.
10. (Currently Amended) The battery of claim 6 ~~any one of claims 6 to 9~~ wherein the means to allow air into the battery to provide oxygen for reduction at the second cathode comprises at least one hole in the negative contact of the button battery.
11. (Original) The battery of claim 10 wherein an air distribution membrane is provided across the at least one hole in the negative contact of the button battery.
12. (Currently Amended) The battery of claim 6 ~~any one of claims 6 to 11~~ wherein the second positive contact is situated within the battery casing, extends from the first cathode to the second cathode, and is insulated from the anode and the negative lid.
13. (Original) The battery of claim 6 wherein the button battery comprises first and second positive lids joined by a crimp seal on both facing sides of the button cell via electrically insulating grommets to a negative ring.
14. (Currently Amended) The battery of claim 6 ~~or claim 7~~ wherein the means to allow air into the battery to provide oxygen for reduction at the first cathode comprises at least one hole through the first positive lid.
15. (Original) The battery of claim 14 wherein an air distribution membrane is provided across the at least one hole.
16. (Currently Amended) The battery of claim 13 ~~any one of claims 13 to 15~~ wherein the means to allow air into the battery to provide oxygen for reduction at the second cathode comprises at least one hole in the second positive lid of the button battery.

17. (Original) The battery of claim 16 wherein an air distribution membrane is provided across the at least one hole in the second positive lid of the button battery.

18. (Currently Amended) The battery of claim 1 ~~any one of claims 1 to 17~~ further comprising means to prevent entry of air carrying oxygen into the battery to either of the first or second cathodes, prior to commencement of use of the battery.

19. (Original) The battery of claim 18 wherein adhesive tabs are used to seal the battery casing.

20. (Original) The battery of claim 19 wherein the adhesive tabs comprise adhesive metal-polymer laminates.

21. (Currently Amended) The battery of claim 1 ~~any one of claims 1 to 20~~ wherein the first and second separators prevent migration of solid particles between the first and second cathodes and the anode.

22. (Currently Amended) The battery of claim 1 ~~any one of claims 1 to 21~~ wherein the battery further comprises an electrically conductive yet electrochemically inactive backbone electrode.

23 - 38. (Cancelled)

39. (Original) A method of battery construction comprising the steps of:

- providing a first cathode operable to electrochemically reduce oxygen to produce hydroxide ions;

- electrically connecting a first positive contact to the first cathode to allow electrons to flow to the cathode;

- providing means to allow air into the battery to provide oxygen for reduction at the first cathode;

- providing an anode operable to receive hydroxide ions and undergo oxidation to produce electrons;

- electrically connecting a negative contact to the anode to allow electrons to flow from the anode;

- providing a first separator between the first cathode and the anode;

- providing a second cathode operable to electrochemically reduce oxygen to produce hydroxide ions, such that the second cathode is situated proximal to the negative contact and proximal to the anode;

providing means to allow air into the battery to provide oxygen for reduction at the second cathode;

electrically connecting a second positive contact to the second cathode which allows electrons to flow to the second cathode; and

providing a second separator between the second cathode and the anode.

40. (Original) The method of claim 39 wherein the first and second cathodes comprise catalysed carbon.

41. (Currently Amended) The method of claim 39 ~~or claim 40~~ wherein the anode comprises zinc.

42. (Original) The method of claim 41 wherein the zinc is provided in a gelled mixture of zinc powder and KOH electrolyte.

43. (Currently Amended) The method of claim 39 ~~any one of claims 39 to 42~~ wherein the battery is a button battery.

44. (Original) The method of claim 43 further comprising the step of forming a casing of the battery from the negative contact and the first positive contact by joining the positive contact and the negative contact together with an insulating gasket.

45. (Original) The method of claim 44 further comprising electrically connecting the second positive contact to the first cathode within the casing and insulating the second positive contact from the anode and from the negative contact.

46. (Currently Amended) The method of claim 44 ~~or claim 45~~ wherein the step of providing means to allow air into the battery to provide oxygen for reduction at the first cathode comprises providing at least one hole through the first positive contact.

47. (Original) The method of claim 46 further comprising the step of providing an air distribution membrane across the at least one hole.

48. (Currently Amended) The method of claim 44 ~~any one of claims 44 to 47~~ wherein the step of providing means to allow air into the battery to provide oxygen for reduction at the second cathode comprises forming at least one hole in the negative contact of the button battery to allow airflow to the second cathode.

49. (Original) The method of claim 48 further comprising the step of providing an air distribution membrane across the at least one hole in the negative contact.

50. (Currently Amended) The method of claim 39 ~~any one of claims 39 to 49~~, further comprising the step of providing means to prevent entry of air carrying oxygen into the

battery to either of the first or second cathodes, prior to commencement of use of the battery.

51. (Original) The method of claim 43 further comprising the step of forming a casing of the button battery from the first positive contact, the second positive contact and the negative contact, by forming the negative contact as a ring, positioning the first and second positive contacts on opposed sides of the ring, and joining the positive contacts to the ring by a crimp seal with electrically insulating grommets.

52. (Currently Amended) The method of claim 39 ~~any one of claims 39 to 51~~ further comprising the step of providing an electrically conductive yet electrochemically inactive backbone of an electrode to decrease cell impedance.